

Glossary of Composting Terms

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Glossary of Composting Terms

AERATED STATIC PILE - composting system that uses a series of perforated pipes as an air distribution system running under the compost pile and connected to a blower. The pile is not turned.

AERATION - bringing about the contact of the compost with air through turning, or ventilating to allow microbial aerobic metabolism.

AEROBIC - occurring in the presence of oxygen. For successful composting, sufficient oxygen should be provided to keep the system aerobic. This ensures that the composting proceeds rapidly and with minimal odor.

AMBIENT TEMPERATURE - temperature outside the compost pile.

ANAEROBIC - occurring in the absence of oxygen. Anaerobic composting proceeds slowly and is odiferous.

BIODEGRADABILITY - the potential of an organic substance to be broken down into simpler compounds or molecules through the action of microorganisms.

BULKING AGENT - material, such as wood chips, added to compost primarily to help create good pore structure for air flow. Often provides part of carbon source as well.

BULK DENSITY - the mass of a unit volume of soil, generally expressed in gm/cm³. The volume includes both solids and pores. Thus soils that are light and porous will have low bulk densities, while heavy or compact soils will have high bulk densities.

CATION EXCHANGE CAPACITY - a measure of the negative charge on soils (primarily on clays and organic matter). It is expressed as the quantity of cations (positive ions) that can be adsorbed by the soil and is expressed in centimoles of charge/kg of soil (6x10²³ charged particles are contained in one mole of charge).

CELLULOSE - a polysaccharide composing cell walls.

CONTAMINANT - unwanted material. Physical contaminants of compost include glass, plastic, and stones, and chemical contaminants include trace heavy metals and toxic compounds.

CURING - the last stage of composting that occurs after much of the readily metabolized material has been decomposed. Provides for additional stabilization and reduction of pathogens and allows further decomposition of cellulose and lignin.

DECOMPOSITION - the breakdown of organic matter through microbial action.

HEAVY METALS, TRACE METALS - trace elements whose concentrations are regulated because of the potential for toxicity to humans, animals, or plants. Examples include chromium, copper, nickel, cadmium, lead, mercury, and zinc.

HUMUS - a complex aggregate made during the decomposition of plant and animal residues; mainly derivatives of lignin, proteins, and cellulose combined with inorganic soil parts.

INORGANIC - substances in which carbon-to-carbon bonds are absent. Mineral matter.

LEACHATE - liquid that drains from the mix of fresh organic matter.

LIGNIN - a hard substance embedded in the cellulose of plant cell walls that provides support.

MATURE COMPOST - the stabilized and sanitized product of composting; it has undergone decomposition and is in the process of stabilization. It is characterized as containing readily available forms of plant nutrients; it is low in phytotoxic acids.

METABOLISM - exchange of matter and energy between an organism and its environment and the transformation of this matter and energy within the organism.

MOISTURE CONTENT - weight of water in material divided by weight of solids in material.

ORGANIC - all compounds whose molecules contain carbon with a few exceptions such as carbon dioxide.

PATHOGEN - an organism including viruses, bacteria, fungi and protozoa capable of producing an infection or disease in a susceptible host.

PERMEABILITY - A measure of the rate at which water can percolate through soil.

PHENOL - a caustic, poisonous acidic compound present in coal tar and wood tar; a hydroxyl derivative of aromatic hydrocarbons.

PHYTOTOXIN - an element or compound that injures plants.

SOURCE SEPARATION - the practice of separating waste generated within each household or commercial operation into separate fractions such as newspapers, glass etc., and placing them in separate containers for recycling, composting, and disposal.

STABILITY - the degree to which the composted material can be stored or used without giving rise to nuisances, or can be applied to the soil without causing problems due to incomplete degradation of readily biodegradable materials.

THERMOPHILIC - relating to organisms growing at high temperatures (40°C-60°C). A stage in composting.

TOXINS - substances that cause a reduction of viability or functionality in living things.

WINDROW SYSTEM - composting mixture is placed in elongated piles called windrows. These windrows are aerated naturally through the chimney effect, or by mechanically turning the piles with a machine or by forced aeration.

YARD TRIMMINGS - grass clippings, leaves, and weeds and shrub and tree prunings six inches or less in diameter from a residence or business.



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